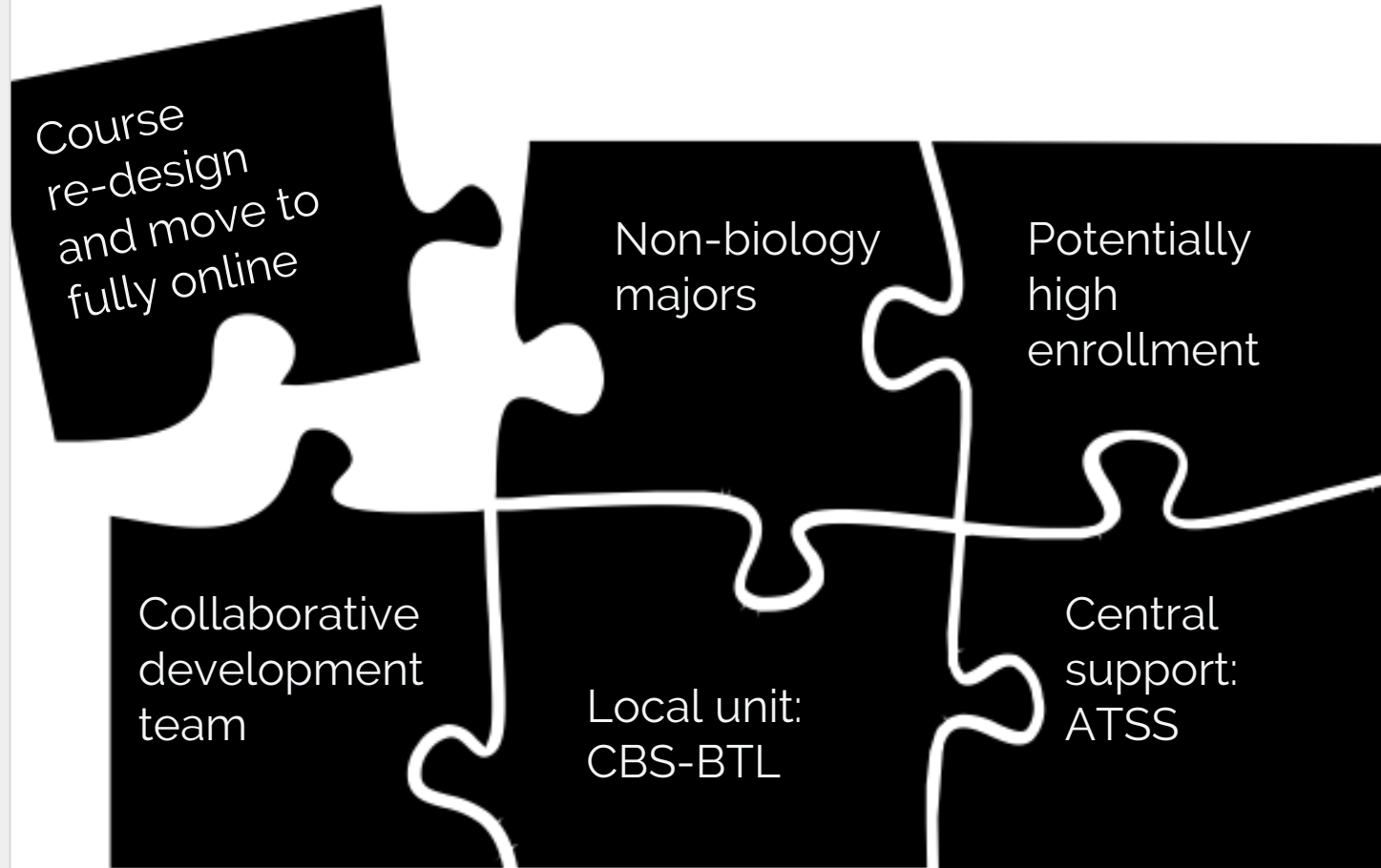


Trials and Tribulations of Designing an Online Science Lab

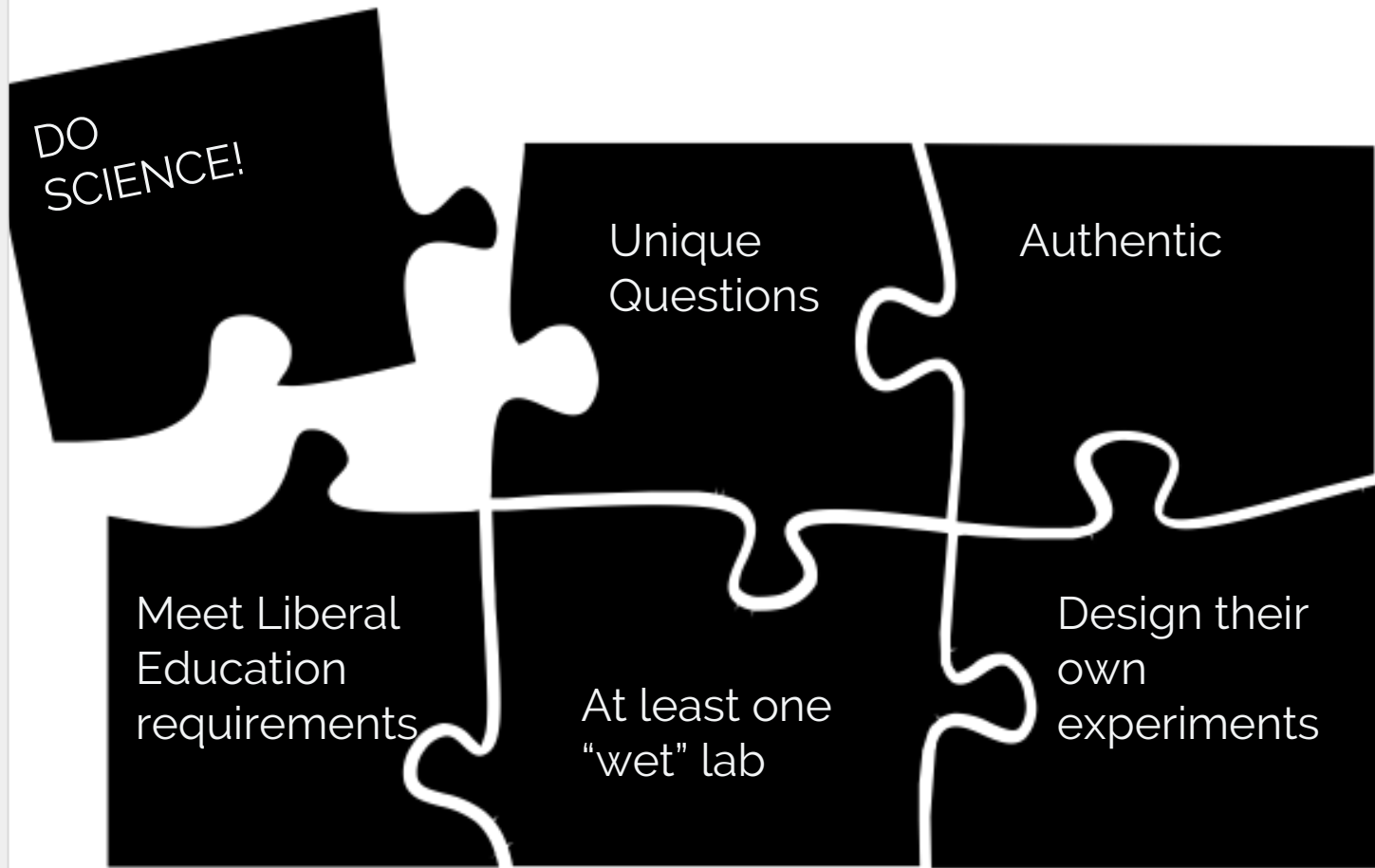
Kalli Binkowski

Academic Technology Coordinator

A little
about the
pieces of
our puzzle



The
puzzle
pieces we
wanted.



What labs?

- Content?
- Equipment and Safety?
- Doable?



Only 3 Labs?!

— — —

[Understanding Experimental Design](#), Simbio tutorial

[Cell Biology and Cancer](#), NIH Curriculum supplement series

[Snapshot Serengeti](#), Instructors Lab

Safe? Doable? Equipment?

— — —

- Safety checks – vendor and [U of M DEHS](#)
- A [Group kit](#)
- [Personal Hazard Assessment](#)
- [Expanding it to inquiry](#)
- Testing the Lab – [Shoot videos while you test!](#)

Student Experimental Design?

— — —

- Interactive Tutorial
- Group question
- Group design
- Instructor review/student revision
- Group experiment and analysis
- Individual Design
- Group Review
- Instructor Review
- Individual experiment and analysis

When to tell them?

— — —

Pour as many plates as you can, not just the ten indicated in the instructions

Proximate and scaffolded information

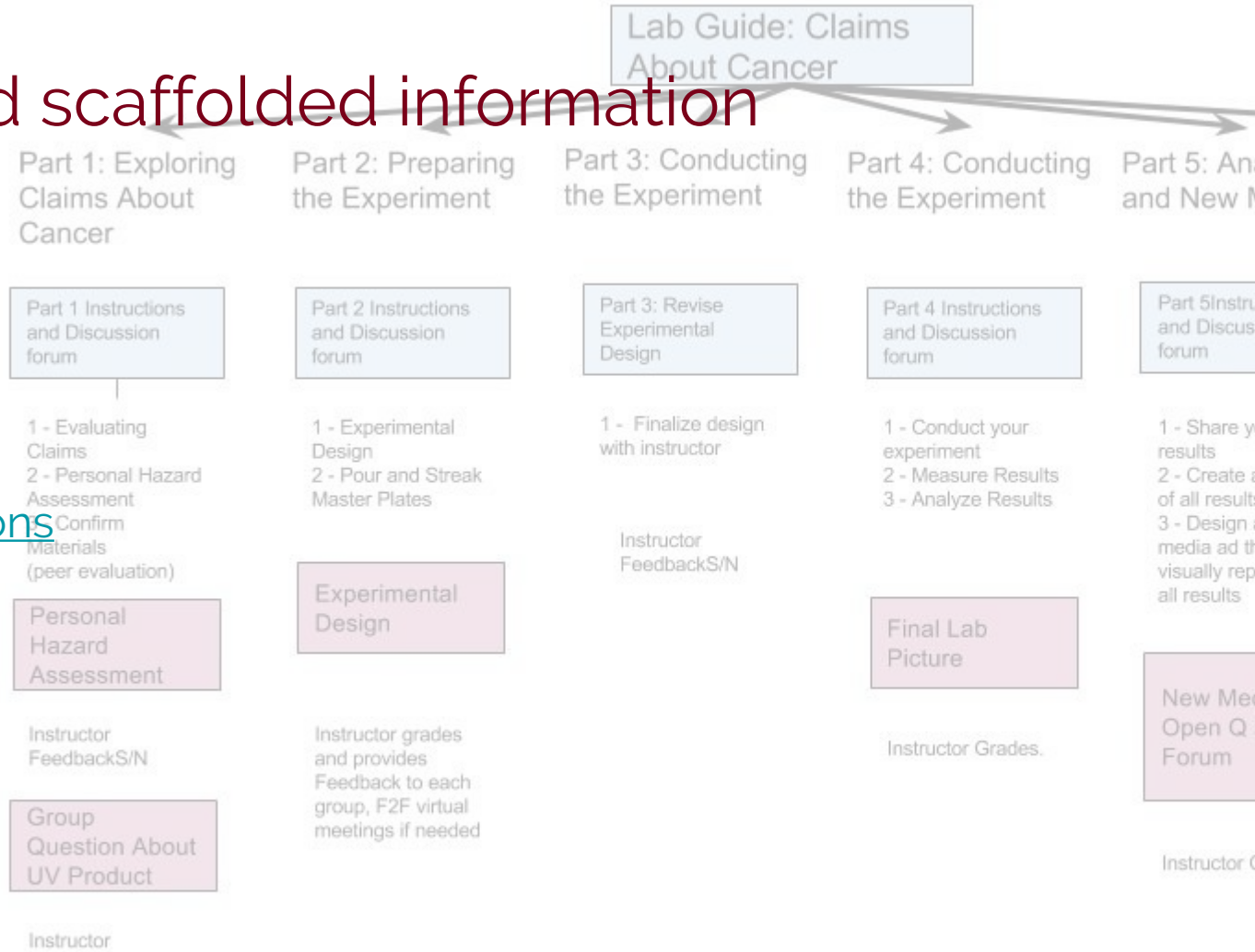
[Lab Schedule](#)

[Lab Overview](#)

[Weekly Instructions](#)

[Assignment Instructions](#)

[Lab Procedures](#)



What to Assess?

— — —

- Graph compiling results, placed in an [advertisement](#)
- [Picture of final plates](#)
- [Reflection on Lab validity](#)
- Practice hypothesis and graph
- [Final report summarizing results](#) – Peer review then instructor grading.

75% of students successfully completed Cancer Lab

Lab	Strongly Agree /Agree	Strongly Disagree /Disagree
Relevant	21.29%	12.5%
Easy to order	21.29%	6.25%
Reasonable cost	23.5%	0.00%
Understand Instructions	15.19%	51.2%
Videos helped	29.3%	16.25%

Questions?

Enter a brief (optional) end message here (i.e. Thank you!).

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